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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/764,806	01/26/2004	Donald A. Shiffler JR.	PRS0732-DIV	4438

31423 7590 10/04/2004  
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EXAMINER
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CHEN, BRET P

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/764,806

Applicant(s)

SHIFFLER, DONALD A.

Examiner

B. Chen

Art Unit

1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5, 8, 10 and 13-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-4, 8, 13, 15 and 17 is/are allowed.
- 6) ☒ Claim(s) 5, 10, 14, 16 and 18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

**DETAILED ACTION**

Claims 1-5, 8, 10, 13-18 are pending in this application which is a DIV of Serial Number 09/681,703 now US Patent 6,683,399. Amended claims 4-5, 10, 13, 15, 17 and canceled claims 6-7, 9, 11-12 are noted.

The amendment dated 9/7/04 has been entered and carefully considered. In view of the amendments and explanations, some of the new matter rejections have been withdrawn.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 10, 14, 16, 18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claimed limitations mentioned below are considered to be new matter as they do not have basis in the specification and since they do not have basis in the parent application 09/681,703, of which this application is a divisional.

In claims 10, 14, 16, and 18, the limitations of "coating only tips" and "only the tips are dipped" are deemed new matter as there appears to be no support for same in the original specification.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

**Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Garate et al.**

Garate discloses a method of providing a plurality of shafts of carbon fibers perpendicularly attached to a graphite base, which is bonded to a cathode for a field emission cathode, forming a solution of a cesiated salt, and coating the carbon fibers with the cesiated solution, wherein the carbon fibers attached to the graphite base read on the claimed carbon velvet (see Figure 2; Apparatus and Experimental Results section). However, the reference does not teach coating only the tips of carbon fiber shafts.

It is noted that Garate fairly teaches of applying the coating to the fibers by application with a brush, which would introduce coating to the fibers at the tips. A fair reading would lead one skilled in the art that only the application to the outer surface of the carbon fibers (i.e. the tips of the fibers) is critical for achieving the desired result, and thus limiting the application of the coating to the tips of the fibers in Garate would have been an obvious modification, with the expectation of producing the desired cesiated salt coating to the carbon fibers of the cathode.

***Allowable Subject Matter***

Claims 1-4, 8, 13, 15, 17 are allowed.

***Response to Arguments***

Applicant's arguments filed 9/7/04 have been fully considered but they are not persuasive.

Applicant first argues that coating only the tips is not deemed new matter as noted in paragraph 14 of the parent specification (p.10).

The examiner disagrees. Paragraph 14 states:

*"In addition, the cesiated salt can be deposited by dipping the carbon cathode into a crucible of molten cesiated salt. The cathode is placed so that the carbon tips of the carbon velvet material extend into the molten bath. The molten cesiated salt is then allowed to cool with the cesiated salt crystallizing at the cathode tips."*

Nowhere is there any recitation that only the tips are coated and/or dipped. The first sentence clearly teaches that the entire carbon cathode is dipped while the second sentence indicates the orientation of the carbon cathode. While the third sentence indicates that the cesiated salt crystallizes at the tips, the specification as originally filed does not state that only the tips are coated and/or dipped.

Applicant next argues that Garate does not teach the desirability to apply the solution only to the fiber tips (pp.7-9).

The examiner disagrees. It is first noted that the reference clearly teaches of applying a solution with a fine brush. The applicant has not rebutted this fact. One skilled in the art would note that the solution must be applied to the tips first before it could even coat the core material. Simply put, it would not be possible to coat the core without coating the tips by utilizing a brush. One skilled in the art would reasonably expect after reading the cited reference that the exterior coating (ie. coating the tips) is critical to Garate's process and hence, the coating of the tips would have been an obvious variation.

Applicant's arguments have been considered but are not deemed persuasive.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to B. Chen whose telephone number is (571) 272-1417. The examiner can normally be reached on 7:30am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (571) 272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Bc  
9/29/04

  
**BRET CHEN**  
**PRIMARY EXAMINER**